

ANNUAL INSPECTION CHECK LIST

Wide-Body LongEZ N3R

Date: _____ INSPECTOR: _____

HOBBS: _____ hr FAA Cert. No.: _____

BEFORE INITIAL INSPECTION

- ☐ Review the RAF Canard Pusher for outstanding safety issues.
- ☐ Search <http://www.rutanaircraft.com> for safety issues.
- ☐ Search & Comply with AD's & Service Letters.
- ☐ Review the W&B and equipment list for currency.
- ☐ Remove access covers, wheel pants and cowling.
- ☐ Inspect engine for oil or fuel leaks.
- ☐ Thoroughly clean the aircraft and engine.

FUSELAGE -- COCKPIT GROUP INSPECTION

- ☐ Inspect fiberglass for deterioration or evidence of failure.
- ☐ Inspect cabin for cleanliness & items that might foul the controls.
- ☐ Inspect speed brake for condition, fit, security and operation.
- ☐ Inspect seat harness for poor condition and attach security.
- ☐ Inspect canopy, hinges, latches and safety catch for damage and proper function.
- ☐ Inspect instruments condition, mounting, marking and operation.
- ☐ Inspect flight & engine controls for proper installation and oper.
- ☐ Inspect pitch trim control operation and installation & lubricate.
- ☐ Inspect pitch trim control operation and installation.
- ☐ Inspect ELT for proper installation, signal, operation & battery date

FUSELAGE – NOSE GROUP INSPECTION

- ☐ Remove canard (see manual instructions).
- ☐ Inspect fiberglass for deterioration or evidence of failure.
- ☐ Inspect 25AH battery for proper installation, condition.
- ☐ Inspect landing light actuation mechanism and wiring.
- ☐ Inspect rudder pedals, rudder cables, and master cylinder.
- ☐ Inspect oil cooler and lines running aft.
- ☐ Inspect nose gear retract mechanism then grease worm gear and worm with light grease.
- ☐ Inspect security on all actuating mechanism hardware.
- ☐ Verify proper nose gear warning micro switch operation and condition of switch & wire.

ENGINE AND FIRE WALL GROUP INSPECTION

- ☐ Change oil & inspect screens for metal or foreign material.
- ☐ Inspect studs & nuts proper torque and obvious defects.
- ☐ Compression #1-____/80 #2-____/80 #3-____/80 #4-____/80.
- ☐ Clean or replace spark plugs and gap (.030").
- ☐ Inspect engine mount for cracks & engine or mount looseness.
- ☐ Inspect Lord mounts for condition and deterioration.
- ☐ Inspect secondary battery, electrical wires, and 8A alternator.
- ☐ Inspect engine controls for defects, travel, and proper safety then lubricate.
- ☐ Inspect lines, hoses & clamps for leaks, condition & looseness.
- ☐ Inspect exhaust stacks for leaks, cracks, defects, and security.
- ☐ Check 65A alternator bearings for smoothness, mount security and belt condition.
- ☐ Inspect carburetor heat box & install new air filter.
- ☐ Inspect electrical wires for condition and signs of chafing.
- ☐ Inspect baffles condition and that they fit tightly.
- ☐ Run engine: Check for leaks, ignition function, idle speed, mixture cutoff.
- ☐ Inspect condition of ignition wires and electronic ignition timing.
- ☐ Inspect cowling for cracks and defects.

PROPELLER GROUP INSPECTION

- ☐ Remove spinner and prop, checking for condition.
- ☐ Check propeller extension for torque and signs of cracks.
- ☐ Install propeller and torque to 40 - 50 ft-lbs.
- ☐ Check prop track ($\pm 1/16"$) & dynamic balance (< 0.05 ips).

LANDING GROUP INSPECTION - MAIN GEAR.

- ☐ Clean, inspect & repack wheel bearings and safety.
- ☐ Service brakes and inspect for condition, function & safety.
- ☐ Check brake line for damage & condition of heat shield.
- ☐ Check rudder travel (4.5 " measured at bottom).
- ☐ Check main gear strut attachment (cf. CP47, Pg. 9).
- ☐ Check tires for wear for proper inflation (50 psi).
- ☐ Check for proper main tire toe-in ($1/4 - 1/2^\circ$ each side)

LANDING GROUP INSPECTION - NOSE GEAR.

- ☐ Clean, inspect & repack wheel bearing.
- ☐ Inspect axle nut for security and proper installation.
- ☐ Inspect nose gear tire condition and inflate 40 psi.
- ☐ Inspect shimmy damper friction adjustment -2-4 lbs side force.
- ☐ Inspect for damage, wear.
- ☐ Inspect and secure on all actuating mechanism hardware.

- ☐ Hold nose up and cycle gear, verify proper function & locking.

FUEL SYSTEM INSPECTION

- ☐ Clean, inspect & apply fuel lube to fuel caps.
- ☐ Inspect fuel tank vent system; open, no leaks.
- ☐ Inspect gascolator, clean filter & safety.
- ☐ Inspect fuel line condition.
- ☐ Inspect primer valve and lines.
- ☐ Inspect and clean carburetor finger screen.
- ☐ Drain Carb bowl. If trash found in bowl or screens, disassemble and clean.
- ☐ Pressure check fuel system with electric pump on for leaks.

CONTROL SYSTEM INSPECTION

- ☐ Inspect elevator/aileron push rods for proper installation & wear.
- ☐ Inspect elevator/aileron push rods for freedom of movement throughout control travel.
- ☐ Inspect pitch trim springs and mechanism for function and freedom of movement.
- ☐ Inspect elevator and aileron hinge attachment screws for safety and jamb nut installation.
- ☐ Inspect elevator and aileron for freedom of movement without binding or chafing.
- ☐ Inspect rudder pedals for freedom of movement, cable attachments and return to neutral.
- ☐ Inspect rudder pulleys and cables and cable guard.
- ☐ Inspect all rod ends and lubricate.
- ☐ Inspect cables, control rods for chafing.
- ☐ Inspect for $>1/16$ " clearances about all mass balances.

INSTRUMENTATION - ELECTRICAL INSPECTION

- ☐ Check pitot/static systems for leaks.
- ☐ Inspect radio antenna connections.
- ☐ Inspect wiring for chafing.
- ☐ Check lights: navigation, landing, strobe, cockpit.

MAIN WING GROUP INSPECTION

- ☐ Inspect surfaces for damage, cracks, delamination.
- ☐ Inspect fuel tanks for leaks, water.
- ☐ Inspect nav lights, strobes for operation, security.
- ☐ Inspect rudder hinges, bell horns, springs and attachments.
- ☐ Inspect winglet skins for damage, cracks delamination.(CP71-5)
- ☐ Inspect elevator hinges and attachments.
- ☐ Check ailerons for proper mass balance (0 to 10° nose down).

- ☐ Lube & Inspect ailerons, hinges, cables, pulleys & bell cranks.
- ☐ Remove wings & inspect attach fittings for cracks or delaminations (every other annual).
- ☐ Inspect wing attach bolts, lube and torque to 30 ft. lb.

CANARD GROUP INSPECTION

- ☐ Inspect canard lift tabs, elevator torque tubes, bolts and nut-plates condition.
- ☐ Inspect canard surfaces for damage, cracks, delamination.
- ☐ Check elevator weights for security and test elevators for 12° to 25° nose down balance.
- ☐ Inspect controls and rodends for condition and lubricate.
- ☐ Check security on all actuating mechanism hardware.
- ☐ Install canard (torque 30 inch-pound) checking elevator travel $22^\circ \pm 2^\circ$ down to $20^\circ \pm 2^\circ$ up.
- ☐ Log inspection in N3R's Logbook